

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of the claims in the application:

Listing of Claims:

1 - 6. (Cancelled)

7. (Previously Presented) The system of claim 22, further including internal plumbing coupling the cleaning gas distribution channels to the cleaning gas source within the wall of the processing chamber.

8. (Previously Presented) The system of claim 7, further including a plurality of channel openings coupling the internal plumbing to the cleaning gas distribution channels.

9. (Previously Presented) The system of claim 22, further including a chamber collar separating the lid of the processing chamber from the wall of the processing chamber and including internal plumbing coupling the cleaning gas distribution channels to the cleaning gas source.

10 - 21. (Cancelled)

22. (Currently Amended) A gas delivery system, comprising:

a cleaning gas source fluidly coupled via a cleaning gas plumbing arrangement to one or more cleaning gas distribution channels disposed within a lid of a processing chamber, the lid being supported by walls of the processing chamber, each of the one or more cleaning gas distribution channels having a respective cross-section and each being located around a periphery of the lid of the processing chamber, wherein the cleaning gas plumbing arrangement includes a plurality of fluid paths coupling the cleaning gas source to each cleaning gas distribution channel;

a plurality of cleaning gas injection ports distributed around the lid of the processing chamber, each of the cleaning gas injection ports having a respective cross-section that is smaller than each of the respective cross-sections of the one or more cleaning gas distribution channels, each of the cleaning gas injection ports in fluid communication with one of the one or more cleaning gas distribution channels and each oriented at one or a respective one or more angles with respect to the walls of the processing chamber, the cleaning gas injection ports collectively arranged so as to deliver a greater concentration of cleaning gas towards cooler elements of the processing chamber than towards warmer elements of the processing chamber during cleaning processes; and

processing gas plumbing arrangements fluidly coupled to a processing gas distribution showerhead within the processing chamber and supported by but separate from the lid of the processing chamber, the processing gas plumbing arrangement being separate from the cleaning gas plumbing arrangement, the one or more cleaning gas distribution channels and the cleaning gas injection ports.

23. (Previously Presented) The system of claim 22, wherein the plurality of cleaning gas injection ports include a first subset of cleaning gas injection ports oriented at a first angle with respect to the walls of the processing chamber and second subset of cleaning gas injection ports oriented at a second angle with respect to the walls of the processing chamber.

24. (Previously Presented) The system of claim 22, wherein the cleaning gas source is configured to generate reactive fluorine species.

25. (Previously Presented) The system of claim 22, wherein the cleaning gas source is configured to generate a reactive cleaning gas for cleaning byproducts of WSi_x film generation.

26. (Currently Amended) The system of claim 22, wherein the cross-sections of the cleaning gas distribution channels are ten or more ~~time~~ times greater than the cross-sections of the cleaning gas injection ports.